

IN THE CLAIMS:

1. (previously amended) An efficient fluid cleaning system comprising:
first means for changing the pressure of a fluid from a first pressure to a second pressure, said second pressure lower than said first pressure and
second means for distributing said fluid within an evaporation chamber at said
5 second pressure, said evaporation chamber including an evaporation surface having capillary channels for dispersing fluid about said evaporation surface via capillary action to facilitate evaporation of contaminants from within said fluid.
2. (original) The system of Claim 1 wherein said second means includes means for employing siphoning action to disperse said fluid about said evaporation surface when said efficient fluid cleaning system is installed at an angle so that said evaporation chamber is angled.
3. (reinstated original, previously withdrawn) The system of Claim 2 wherein said evaporation chamber includes substantially parallel or cylindrical walls to maximize fluid circulation out the system and to maximize the compactness of the fluid cleaning system, and wherein said evaporation surface is contoured to promote dripping from
5 edges of the contours to enhance effective evaporation surface area via the surfaces of resulting fluid drops.
4. (currently amended) The system of Claim 1 wherein said capillary channels are spiral capillary channels, and wherein said fluid cleaning system further includes a vent
for venting said contaminants through a ceiling of said evaporation chamber.
5. (reinstated, previously withdrawn, currently amended) The system of Claim 4 wherein said vent includes a valve ~~biased in an open position and~~ lacking a cracking pressure, said valve preventing the escape of said fluid from said system, and wherein

said evaporation surface includes polygon-shaped perforations therein for allowing said
5 fluid to pass radially through walls of said chamber and onto said evaporation surface,
said perforations distributed in at least two dimensions relative to said evaporation
surface.

6. (reinstated, previously withdrawn, currently amended) The system of Claim 4
further including a housing, a filter disposed therein, said evaporation chamber
surrounded by said filter, said filter disposed within said housing so that a space exists
between said filter and said housing wherein said fluid can circulate, ~~and further~~
5 ~~including fourth means for draining said clean fluid from said evaporation chamber via a~~
~~drain extending through a base of said evaporation chamber, and wherein said fluid~~
~~cleaning system lacks a built-in heater.~~

7. (previously amended) The system of Claim 4 wherein said capillary channels
are partially circular and are sufficiently deep to distribute fluid about a circumference of
said evaporation chamber when said fluid cleaning system and said evaporation chamber
are in a near horizontal position.

8. (original) The system of Claim 1 further including means for squirting said
fluid within said evaporation chamber to enhance effective evaporation surface area.

9. (original) The system of Claim 8 wherein said means for squirting further
including means for causing cavitation of said contaminants to facilitate evacuation of
said contaminants from said system.

10. (original) The system of Claim 9 wherein said means for causing cavitation
includes one or more cavitation jets opening into said evaporation chamber, said one or

more cavitation jets including funnel portions for accelerating said fluid to create a sufficiently low pressure to cause cavitation of said contaminants.

11. (currently amended) The system of Claim 1 further including an electromagnetic heater coil disposed about said evaporation chamber, ~~said electromagnetic coil acting as both a heater and an electromagnet, and wherein said fluid cleaning system includes additional channels that maintain said metallic contaminants when said chamber.~~

~~electromagnetic coil is not powered.~~

12. (previously amended) An efficient fluid cleaning system comprising:

first means for changing the pressure of a fluid from a first pressure to a second pressure, said second pressure lower than said first pressure and sufficient to cause cavitation of contaminants in said fluid and

5 second means for distributing said fluid within an evaporation chamber at said second pressure to facilitate evaporation of contaminants within said fluid.

13. (currently amended) The system of Claim 12 wherein said evaporation chamber includes an evaporation surface that is at least partially surrounded by an electromagnetic heater coil and one or more spiral capillary channels.

14. (original) An efficient evaporation surface for a mobile oil recycling system comprising:

a surface contour for expanding the surface area of said evaporation surface over that of a substantially flat surface by at least five percent, said surface contour having
5 perforations therein for allowing oil to pass therethrough and onto said evaporation surface and

capillary channels at various positions along said surface contour for distributing oil about said evaporation surface.

15. (currently amended) An efficient fluid cleaning system comprising:

first means for changing the pressure of a fluid from a first pressure to a second pressure, said second pressure lower than said first pressure and sufficient to cause cavitation of contaminants in said fluid;

5 second means for distributing said fluid within an evaporation chamber at said second pressure via one or more spiral capillary channels and one or more cavitation jets to facilitate evaporation of contaminants within said fluid;

~~an electromagnetica heater coil for simultaneously heating said evaporation chamber and removing metallic particles from circulation within said fluid;~~ and

10 a filter for removing solid contaminants from said fluid, said filter surrounding said evaporation chamber; and

a space between an oil inlet and said filter to facilitate distribution of fluid about one or more input surfaces of said filter.

16-20. (canceled).

21. (previously added) An efficient fluid cleaning system comprising:

a housing having a filter disposed therein;

5 an inlet opening into a first space in said housing between said inlet and said filter to facilitate distribution of fluid, at a first pressure, about one or more input surfaces of said filter;

an evaporation chamber exposed to a second pressure lower than said first pressure, said evaporation chamber partially surrounded by an output surface of said filter;

means for expanding an evaporative surface area of said evaporation chamber
10 over that of a substantially flat surface; and

an outlet in communication with said evaporation chamber and positioned in a
base of said housing.

22. (original) An efficient fluid cleaning system comprising:

first means for removing solid mater from said fluid and

second means for facilitating vaporizing certain liquids and/or gases in said fluid
by squirting said fluid in an evaporation chamber to increase exposed surface area of said
5 fluid in said evaporation chamber.